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EXAMINER	
KIM, DAVID S	

ART UNIT	PAPER NUMBER
2613	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/808,683	WELLEN, JEROEN SIEBRAND	
	Examiner	Art Unit	
	David S. Kim	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 July 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. **Claim 20** is objected to because of the following informalities:

In claim 20, "said active optical upstream link" is used where -- said active optical upstream path -- may be intended. Otherwise, antecedent basis is lacking.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-5 and 16-20** are rejected under 35 U.S.C. 102(e) as being anticipated by Combs et al. (U.S. Patent No. 6,751,417 B1, hereinafter "Combs").

Regarding claim 1, Combs discloses:

In an access network, a method for the communication of services to and from customer premises (end-users 112 in Fig. 1), comprising:

transmitting (arrows pointing to the right in Figs. 3-4) services to said customer premises using an end-to-end passive optical downstream path (e.g., paths associated with optical splitters 316 in Fig. 3 and 304 in Fig. 4); and

receiving (arrows pointing to the left in Figs. 3-4) services from said customer premises using an active optical upstream link (e.g., upstream links in Figs. 3-4).

Regarding claim 2, Combs discloses:

The method of claim 1, wherein a central office (head-end 102 in Fig. 1) of said access network transmits services to said customer premises via said passive optical downstream link.

Regarding claim 3, Combs discloses:

The method of claim 1, wherein said passive optical downstream link comprises a means for splitting optical signals (optical splitters 316 in Fig. 3 and 304 in Fig. 4).

Regarding claim 4, Combs discloses:

The method of claim 3, wherein said means for splitting optical signals comprises an optical power splitter (optical splitters 316 in Fig. 3 and 304 in Fig. 4).

Regarding claim 5, Combs discloses:

The method of claim 1, wherein a central office of said access network receives services from said customer premises via said active optical upstream path (notice that head-end 102 receives transmissions via upstream paths in Figs. 3-4).

Regarding claim 16, Combs discloses:

An apparatus for the communication of services to and from customer premises in an access network, comprising:

a means for splitting downstream services being transmitted through an end-to-end passive optical path (e.g., paths associated with optical splitters 316 in Fig. 3 and 304 in Fig. 4) intended for said customer premises (optical splitters 316 in Fig. 3 and 304 in Fig. 4);

at least one means for receiving services comprising optical signals from said customer premises intended for upstream transmission (e.g., lightwave receivers in 320 in Fig. 3; transceivers in 312 in Fig. 4); and

at least one means for aggregating and multiplexing upstream traffic (e.g., 318 in Fig. 3, 310 and 308 in Fig. 4).

Regarding claim 17, Combs discloses:

The apparatus of claim 16, further comprising:

at least one means for transmitting the aggregated services upstream (e.g., lightwave transmitters in 314 in Fig. 3, lightwave transmitters in Fig. 4).

Regarding claim 18, Combs discloses:

A passive/active access network for the communication of services to and from customer premises, comprising:

a central office (head-end 102 in Fig. 1);

at least one customer premise (end-users 112 in Fig. 1); and

an active/passive access unit (Figs. 3-4) for providing communication between said central office and said at least one customer premise, wherein services from said central office intended for said at least one customer premise are communicated to said at least one customer premise using an end-to-end passive optical downstream path (e.g., paths associated with optical splitters 316 in Fig. 3 and 304 in Fig. 4) of said active/passive access unit and services from said at least one customer premise intended for said central office are communicated to said central office using an active optical upstream path (e.g., upstream paths in Figs. 3-4).

Regarding claim 19, Combs discloses:

The passive/active access network of claim 18, wherein said passive optical downstream path of said active/passive access unit comprises a means for splitting (optical splitters 316 in Fig. 3 and 304 in Fig. 4) services from said central office.

Regarding claim 20, Combs discloses:

The passive/active access network of claim 18, wherein said active optical upstream link of said active/passive access unit comprises:

at least one means for receiving (e.g., lightwave receivers in 320 in Fig. 3, transceivers in 312 in Fig. 4) services from said at least one customer premise intended for said central office;

at least one means for aggregating and multiplexing upstream traffic (e.g., 318 in Fig. 3, 310 and 308 in Fig. 4); and

at least one means for transmitting (e.g., lightwave transmitters in 314 in Fig. 3, lightwave transmitters in Fig. 4) the aggregated services upstream to said central office.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 6-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Combs.

Regarding claim 6, Combs discloses:

The method of claim 1, wherein said active optical upstream path comprises:

at least one receiver for receiving services from said customer premises intended for upstream transmission (e.g., transceivers in 312 in Fig. 4).

Combs does not expressly disclose:

at least one switch for aggregating and multiplexing upstream traffic.

However, such switches are extremely well known in the art. Notice that Combs discloses the use of time-division multiplexing (TDM) for aggregating and multiplexing upstream traffic (col. 8, l. 5-8). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to implement this TDM with at least one switch. One of ordinary skill in the art would have been motivated to do this since TDM is conventionally performed with a switch.

Regarding claim 7, Combs discloses:

The method of claim 6, wherein said active optical upstream path further comprises:

at least one transmitter for transmitting the aggregated services upstream (digital lightwave transmitter in 302 in Fig. 4).

Regarding claim 8, claim 8 is an apparatus claim that corresponds largely to the method claim 6. Therefore, the recited steps in method claim 6 read on the corresponding means in apparatus claim 8. Claim 8 also includes limitations absent from claim 6. Combs also discloses these limitations:

a splitter for splitting downstream services intended for said customer premises (optical splitter 304 in Fig. 4);

at least one receiver for receiving services comprising optical signals from said customer premises intended for upstream transmission (e.g., lightwave receivers in 320 in Fig. 3, transceivers in 312 in Fig. 4).

Regarding claim 9, Combs discloses:

The apparatus of claim 8, further comprising:

at least one transmitter for transmitting the aggregated services upstream (digital lightwave transmitter in 302 in Fig. 4).

Regarding claim 10, Combs discloses:

The apparatus of claim 8, wherein said splitter defines a passive optical path of said apparatus (optical splitters are conventionally passive).

Regarding claim 11, Combs does not expressly disclose:

The apparatus of claim 10, wherein said passive optical path further comprises a repeater.

However, repeaters are extremely well known in the art. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to arrange said passive optical path of Combs to further comprise a repeater. One of ordinary skill in the art would have been motivated to do this since repeaters are generally used to boost signal power along a transmission path so that transmission signals can travel farther.

Regarding claim 12, Combs discloses:

The apparatus of claim 8, wherein said at least one receiver and said at least one switch define an active optical path of said apparatus (the transceivers in 312 in Fig. 4 and the TDM switch not expressly shown in Fig. 4 are active components).

Regarding claim 13, Combs discloses:

The apparatus of claim 12, wherein said active optical path further comprises a transmitter (the digital lightwave transmitter in 302 in Fig. 4 is an active component).

Regarding claim 14, Combs discloses:

The apparatus of claim 8, wherein said splitter comprises a power splitter (optical splitter generally operate to split power).

Regarding claim 15, Combs discloses:

The apparatus of claim 8, wherein said apparatus is located within a central office of an access network configured for point-to-point communication (e.g., communication between the point of head-end 102 and the point of an end-user 112 in Fig. 1).

Response to Arguments

6. Applicant's arguments filed on 30 July 2007 have been fully considered but they are not persuasive. Applicant's arguments are based on new limitations introduced by Applicant's most recently filed amendment on 30 July 2007, in particular, the use of an *end-to-end* passive optical downstream path (Remarks, p. 7-9). However, Examiner respectfully notes that *any* path is an *end-to-end* path. Any path travels from one end to the other end. Accordingly, Applicant's arguments are not persuasive, and Examiner respectfully maintains the standing rejections.

However, if Applicant considers the *details* of each end to provide subject matter that distinguishes Applicant's invention from the prior art, then Applicant is encouraged to include such subject matter in the language of the claims. That is, the prior art of record does show the simple ***use*** *of an end-to-end passive optical downstream path.* However, Applicant appears to focus on the differences between the ends of the paths of Combs and the ends of the paths of Applicant's invention (e.g., Remarks, p. 8-9, bridging paragraph). Nonetheless, the claim language does not appear to sufficiently capture these differences in a way that is patentably distinguishable.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shumate ("Comparing the latest high-speed access technologies: FTTx, HFC, xDSL, and wireless") is cited to show comparisons between various high-speed access technologies. In particular, note the comparison between FTTC, which has similarities to aspects of Combs, and FTTH, which has similarities to aspects of Applicant's invention.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Kim whose telephone number is 571-272-3033. The examiner can normally be reached on Mon.-Fri. 9 AM to 5 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth N. Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DSK

KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER